

WHAT IS CLAIMED IS:

1. A coordinate input apparatus comprising:

a coordinate plate having a plurality of pieces of coordinate information each corresponding to an X-coordinate value and a plurality of pieces of coordinate information each corresponding to a Y-coordinate value, said plurality of pieces of coordinate information are independently and intermittently recorded on said coordinate plate;

input-indicating means for indicating a position of the coordinate plate to be input and for detecting coordinate information in the vicinity of the position; and

processing means for determining X-coordinate values and Y-coordinate values from the coordinate information detected by said input-indicating means and for determining the coordinate of the input position on the basis of the X-coordinate values and Y-coordinate values.

2. An apparatus according to Claim 1, wherein the coordinate information comprises a dot array, at least one part of said dot array corresponding to X-coordinate values being different from another part of said dot array corresponding to Y-coordinate values.

3. An apparatus according to Claim 2, wherein said dot

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array of the coordinate information is formed of a plurality of rows and a plurality of columns.

4. An apparatus according to Claim 2, wherein said dot array of the coordinate information has an L-shaped arrangement.

5. An apparatus according to any one of Claims 2 to 4, wherein said dot array of the coordinate information has an arrangement wherein dots are formed with predetermined intervals.

6. An apparatus according to Claim 1, further comprising a display apparatus formed as an input-output integrated type.

7. An apparatus according to Claim 6, wherein said coordinate plate and said display apparatus are formed with a space therebetween.

8. An apparatus according to Claim 6, wherein said coordinate plate and said display apparatus are disposed close to each other and said coordinate plate also serves as a part of said display apparatus.

9. An apparatus according to Claim 6, wherein said plurality of pieces of coordinate information are recorded on said coordinate plate so as to be positionally related to a plurality of display pixels forming display images of said display apparatus.

10. An apparatus according to Claim 9, wherein the plurality of pieces of coordinate information are recorded so as to be located between said plurality of display pixels.

11. A method of inputting a coordinate into a coordinate input apparatus having a coordinate plate with a plurality of pieces of X-coordinate information and a plurality of pieces of Y-coordinate information recorded thereon and input-indicating means for indicating a position to be input, the method comprising the steps of:

reading image information from the coordinate plate by the input-indicating means;

extracting first coordinate information from the read image information;

determining coordinate values in the X- or Y-axis in the first coordinate information using the extracted first coordinate information;

extracting second coordinate information using the read image information;

determining coordinate values in the X- or Y-axis in the second coordinate information using the extracted second coordinate information;

determining coordinate values of the input position indicated by the input-indicating means in the X- and Y-axes on the basis of the coordinate values in the first coordinate information and the coordinate values in the second coordinate information; and

inputting the determined coordinate values of the input position in the X- and Y-axes.

12. A method of inputting a coordinate into a coordinate input apparatus having a coordinate plate with a plurality of pieces of X-coordinate information and a plurality of pieces of Y-coordinate information recorded thereon and input-indicating means for indicating a position to be input, the method comprising the steps of:

reading image information from the coordinate plate by the input-indicating means;

extracting first coordinate information located in a central region of the image information read;

determining coordinate values in the X- or Y-axis in the first coordinate information from the extracted first coordinate information;

estimating the position of second coordinate

information to be extracted from the first coordinate information;

determining coordinate values in the X- or Y-axis in the second coordinate information using the extracted coordinate information;

determining coordinate values of the position to be input indicated by the input-indicating means in the X- and Y-axes on the basis of the determined coordinate values in the first coordinate information and the determined coordinate values in the second coordinate information; and

inputting the coordinate values of the input position in the X- and Y-axes.

13. A coordinate input apparatus comprising:

a coordinate plate having a plurality of pieces of coordinate information recorded thereon which correspond to X-coordinate values and/or Y-coordinate values in a coordinate input effective region forming an X-Y coordinate plane; and

input-indicating means comprising means for detecting the coordinate information of said coordinate plate,

wherein said coordinate plate has a layered structure comprising a plurality of layers deposited in a thickness direction, the coordinate information being stored between the layers of said layered structure.

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14. A coordinate input-output apparatus comprising:  
a coordinate plate having a plurality of pieces of coordinate information recorded thereon which correspond to X-coordinate values and/or Y-coordinate values in a coordinate input effective region forming an X-Y coordinate plane;

input-indicating means comprising means for detecting the coordinate information on said coordinate plate,

wherein said coordinate plate has a layered structure comprising a plurality of layers deposited in a thickness direction, the coordinate information being stored between the layers of said layered structure; and

displaying means disposed so as to oppose said coordinate plate and being capable of displaying two-dimensional images.

15. A coordinate input-output apparatus comprising:  
displaying means capable of displaying two-dimensional images;

a coordinate plate having a plurality of pieces of coordinate information recorded thereon which correspond to X-coordinate values and/or Y-coordinate values in a coordinate input effective region forming an X-Y coordinate plate; and

input-indicating means comprising means for detecting the coordinate information of said coordinate plate,

wherein a surface of said coordinate plate having the coordinate information recorded thereon opposes and is bonded to a surface of said displaying means.

16. An apparatus according to Claim 14 or 15, wherein the coordinate information is recorded to be positionally related to a plurality of display pixels forming display images of said displaying means.

17. An apparatus according to Claim 13, wherein the coordinate information is independently and intermittently recorded on said coordinate plate.

18. An apparatus according to Claim 16, wherein the coordinate information is independently and intermittently recorded on said coordinate plate.

19. A coordinate input apparatus comprising:  
a coordinate plate having a plurality of pieces of coordinate information recorded thereon;

input-indicating means for indicating a position to be input on said coordinate plate and for detecting coordinate information in the vicinity of the position; and

processing means for determining the coordinate of the position indicated by said input-indicating means from coordinate values in the coordinate information detected by said input-indicating means.

20. An apparatus according to Claim 19, further comprising a display apparatus formed as an input-output integrated type.

21. An apparatus according to Claim 20, wherein the plurality of pieces of coordinate information are recorded on said coordinate plate so as to be positionally related to a plurality of display pixels forming display images of said display apparatus.

22. An apparatus according to Claim 21, wherein the plurality of pieces of coordinate information are recorded so as to be located between said plurality of display pixels.

23. A coordinate input-output unit of a coordinate input apparatus which inputs a coordinate using a coordinate reading device, said unit comprising;

a coordinate plate having a plurality of pieces of coordinate information recorded thereon, which are read by said coordinate reading device; and



a display apparatus integrated with said coordinate plate together,

wherein the coordinate information is recorded on said coordinate plate on the basis of the arrangement of a plurality of display pixels forming display images of said display apparatus.

24. A unit according to Claim 23, wherein the coordinate information is recorded so as to be located between the display pixels.

25. A coordinate plate of a coordinate input apparatus which inputs a coordinate using a coordinate reading device, said coordinate plate comprising:

a plurality of pieces of coordinate information corresponding to X-coordinate values; and

a plurality of pieces of coordinate information corresponding to Y-coordinate values,

wherein the respective plurality of pieces of coordinate information corresponding to X-coordinate values and corresponding to Y-coordinate values are independently and intermittently recorded.

26. A coordinate plate according to Claim 25, further comprising a display apparatus which is integrated with said

coordinate plate, wherein

the plurality of pieces of coordinate information are recorded on said coordinate plate so as to be positionally related to a plurality of display pixels forming display images of said display apparatus.

27. A coordinate plate according to Claim 26, wherein the coordinate information is recorded so as to be located between said display pixels.

28. A coordinate plate according to Claim 25, wherein the coordinate information comprises a dot array, and at least one part of said dot array corresponding to X-coordinate values is different from another part of said dot array corresponding to Y-coordinate values.

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